



ENGINEERING ASSOCIATE/SENIOR ENGINEERING ASSOCIATE

Purpose:

To actively support and uphold the City's stated mission and values. To perform a variety of technical tasks involving civil engineering design, field engineering and survey work, inspection, construction management, and design project management.

DISTINGUISHING CHARACTERISTICS:

Engineering Associate -- This is the entry-level/training class in the series. This class is distinguished from the Senior Engineering Associate by the performance of more routine duties under close supervision.

Senior Engineering Associate -- This is the full journey level class within the series. The Senior Engineering Associate performs the same duties as the Engineering Associate except on larger, more complex projects, and requires minimal supervision. Employees in this class perform the full range of duties requiring infrequent instruction or assistance as new or unusual situations arise; incumbents are fully aware of the operating procedures and policies of the City and work units, and are prepared to manage projects.

Positions in these classes are flexibly staffed. Advancement to the Senior Engineering Associate level requires that the employee be satisfactorily performing the full range of duties at the journey level, and that the employee meets the minimum requirements. Note that for existing employees advancement to the Senior Engineering Associate class, NICET Certification, EIT, or appropriate equivalent may substitute for one year of experience.

Supervision Received and Exercised:

Engineering Associate

Receives general supervision from the Principal Civil Engineer, Engineering Administrator, or from other supervisory or management staff.

Senior Engineering Associate

Effective November 1988

Revised October 1998

Revised December 2001

Revised March 2005 (Added Utilities Plan Review Assignment)

Revised Nov 2005 (updated assignment responsibilities)

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Engineering Associate/Senior Engineering Associate (continued)

Receives direction from the Principal Civil Engineer, Engineering Administrator, or from other supervisory or management staff.

Exercises functional and technical supervision over lower level, and/or temporary staff.

Examples of Duties:

This class specification is intended to indicate the basic nature of positions allocated to the class and examples of typical duties that may be assigned. It does not imply that all positions within the class perform all of the duties listed, nor does it necessarily list all possible duties that may be assigned.

Duties may include, but are not limited to, the following:

- Perform design and construction management activities on capital improvement, private development, and utility projects; assume major responsibility for the design, inspection, testing, and acceptance of large, complex City construction projects to ensure compliance with specifications, plans, codes, and ordinances; approve pay estimates and progress reports, and, initiate change orders.
- Prepare correspondence and maintain contact with outside agencies and organizations.
- Make recommendations for changes in construction standard specifications and details to conform to field conditions.
- Ensure that proper safety standards and traffic control measures are followed.
- Develop and maintain Engineering Policies and Procedures.
- Perform related duties as assigned.

When assigned to the Capital Improvement Section:

- Prepare engineering designs and drawings using sketches, survey field notes, and other engineering data for the computer aided design of a variety of public works projects, including land use, buildings, water and wastewater lines, streets, site grading, and storm drains.
- Manage the design of City projects completed by internal and external designers; determine procedures to be followed in processing, coordinating, scheduling, and supervising projects from the initial stage of completion.

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- For contracted services, negotiate and develop contracts; coordinate the preparation and processing of payments and process funding adjustments as necessary.
- Review engineering calculations, soil reports, drainage reports, plat maps, deeds, legal descriptions, and other contract documents for value, constructability, errors, and omissions.
- Prepare staff summary reports and recommendations for the City Council for various contractual approvals.
- Conduct pre-construction meetings to establish project protocol and compliance with contract documents; and, facilitate construction progress meetings as required.
- Supervise and coordinate construction management activities performed by consultants; meet with contractor and/or project managers for project scheduling and coordination; and, review and process payments to consultants and contractors.
- Maintain inspection records, monitor logs (shop drawing submittals, requests for information, architectural supplemental instructions and change orders), material testing, and any additional project related documents, as required; confer with architects, engineers, contractors, and owners on proposed projects; oversee progress and quality of construction; and, interpret design intent and facilitate solutions.
- Monitor project budgets and schedules; verify quantities; prepare progress reports; estimate construction costs to validate change order proposals; and, process change orders.
- Verify accuracy of as-built information to ensure information is continuously incorporated into the construction contract documents.
- Schedule testing of construction materials at the appropriate time and interpret results.
- Facilitate close-out of project including preparation and completion of punch list items, employee orientations, and equipment start-up procedures; and, establish warranty start-up.
- Provide information to the public concerning assigned engineering projects.

When assigned to Private Development and Utilities:

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- Review and process civil plans and specifications for commercial, industrial, multi-family, single-family, and municipal projects; review conceptual development plans for public works conditions for approval and, review final development plans to assure public works conditions are met prior to approval.
- Review a variety of plans for correctness and compliance with State, City and County codes, specifications, and details including public utilities, drainage, paving, water and sewer plans; review fire protection systems to assure adequate safety for type and density of project.
- Review engineering calculations, soil reports, drainage reports, plat maps, deeds, legal descriptions, and other contract documents.
- Confer with architects, engineers, contractors, and owners on projects to resolve unusual problems in accordance with City codes and standards.
- Maintain flood zone maps and Federal Emergency Management Agency (FEMA) Letters of Map Revision (LOMR and Letters of Map Amendment (LOMA); and, provide flood zone determinations, when requested.
- Classify and log new projects for plan check; create plan check, project and site data files on Permits Plus system; and, enter permit data and revise data as project status changes.
- Coordinate plan review activities with other City departments and outside agencies.
- Establish required construction permits through the Permits Plus system; determine related testing, inspection, and water usage fees; determine public works fees to be paid by developer; and, notify developer of fees.
- Calculate utility joint trench participation fees by other agencies and coordinate the invoicing and collection of those fees.
- Assist in the creation of manuals, policies, and other materials to assist developers, designers, utility companies, and contractors to process through private development, including plan review and construction inspection.
- Resolve conflicts with plan reviewers and inspectors during construction.
- Inspect various subdivisions, private development offsite improvements, and utility installations in the City right of way for conformance with approved plans, specifications, and regulations; coordinate inspection work with other City departments and utilities; and, coordinate and inspect the relocation of public utilities before and during construction.

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- Coordinate acceptance and return of offsite bonds taken to guarantee offsite improvement completion.
- Respond and resolve complaints and issues related to dust, mud tracking, and public safety.
- Schedule testing of construction materials at the appropriate time and interpret results; and, maintain inspection records and logs.
- Review as-built plans to ensure compliance with original plans and specifications; prepare and monitor fees for overtime worked in conjunction with private development and utility work in public right-of-way; and, review utility plans and specifications, calculate fees, issue permits, and perform inspection for utility projects.
- Assist the Utility Infrastructure Coordinator with the evaluation of routes and location of new utilities considering acceptable clearance from other utilities, preservation of City pavements and other improvements, aesthetics of above ground cabinets, traffic impacts, and joint trench opportunities.
- Coordinate public utility easement access for construction purposes with residents, utilities, and contractors; coordinate the placement of City communication conduits with other City departments and with joint trenches with other utilities; investigate utility complaints and recommend corrective action; and, respond to utility driven damage to City utilities and other facilities and work with utilities to correct deficiencies.
- Coordinate the billing and collection of fees for utility plan review, inspection, pavement surcharge and seal coating.
- Assist in the updating of the Utility Procedural Manual, utility engineering standards, and telecommunication/undergrounding maps.
- Perform related duties as assigned.

When assigned to Information and Technical Services:

- Determine the location and size of required right of way and easements for City street and sidewalk improvement projects, bust stops/shelters, street lighting and traffic signal purposes, and any engineering project specific acquisitions, as needed.
- Negotiate complex right of way and real estate transactions, including commercial, industrial and residential properties; and, draft and analyze real

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estate documents, including purchase and sale agreements, escrow documents, and title curative documents.

- Prepare Request for Proposals (RFP) for land sales of city-owned property; and, request reports, maps, and right of way documents to ensure accuracy; and, prepare or oversee the preparation of legal descriptions; and, review reports, maps, and right of way documents to ensure accuracy.
- Review appraisal reports of contracted appraisers; and, review Environmental Site Assessment reports of contracted consultants.
- Prepare and process a variety of documents, including: requests for encroachment permits, instruments for abandonment, Ordinances and Resolutions for City Council approval, annexation of territory to increase city limits.
- Advise owner of project purpose and scope, impact to their property and their rights under Federal and State law, City ordinances, and City policies and procedures.
- Recommend condemnation action when property negotiations have reached an impasse; and, work closely with City legal staff to prepare pleadings/filing for eminent domain hearing(s) in court.
- Prepare and maintain complete records of right of way legal descriptions, transactions, deeds, agreements, and other related documents; and, review documents prepared by private firms for City approval.
- Work with project managers and engineers to resolve owner issues regarding property impacts as a result of City activity.
- Evaluate operations and activities within assigned areas of responsibility; recommend improvements and modifications; prepare various reports on operations and activities; assist in the resolution of work problems; and, interpret administrative policies to contracted employees, other departments, consultants, contractors, and the public.
- Search records for all parties which may have a legal interest in proposed sites; execute the necessary legal documentation; and, meet with legal counsel, City officials, private owners, and appraisers to coordinate projects.
- Participate in the review processing of private development projects; review a variety of plans for correctness and compliance with City and County codes pertaining to real estate issues.

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- Assist in the management of multiple leases (including environmental monitoring wells), involving businesses occupying City right-of-way; and, review and appraise lease fees and revenue structure, as necessary.
- Utilize both in-house and Internet resources for information gathering and research.
- Perform related duties as assigned.

When assigned as the Chief Surveyor, within the Information and Technical Services section:

- Complete complex and difficult survey assignments such as street reconstructions, storm drain, sewer, water projects, and structure deformation monitoring.
- Delineates rights of way; conducts topographic surveys for design projects; and, establishes control monuments for property surveys, construction staking, and aerial mapping control.
- Takes accurate notes, records, and sketches of work performed and data secured to document the results of the survey effort.
- Communicates with the general public, other City employees, vendors, management, and contractors to answer questions, resolve problems, and coordinate work assignments.
- Instructs and trains subordinates in a field and office setting regarding the technical aspects of surveying.
- Utilize geometry, trigonometry, algebra, and other mathematical principles to calculate stake out positions and other survey locations.
- Use a variety of computer programs such as COGO (coordinate geometry), CAD, and data transfer programs to analyze survey results and produce maps and survey data of all types for use by the general public, other City employees, vendors, management, and contractors.
- Plan, organize and direct survey personnel; supervise and evaluate the work of subordinate personnel, such as preliminary and construction surveys.
- May approve minor deviations from plans and specifications; and, conduct research and analysis to ensure surveys are accurate.

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- Demonstrate a thorough understanding of construction drawings and interpret the drawings in accordance with MAG standards and legal descriptions.
- Perform related duties as assigned.

Experience and Training Guidelines:

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. The hiring department may include job related experience, training or license and certification preferences at the time of recruitment. A typical way to obtain the knowledge and abilities would be:

Experience:

Engineering Associate

Two years of increasingly responsible experience performing a variety of technical civil engineering work.

Senior Engineering Associate

Four years of increasingly responsible experience performing a variety of technical civil engineering work.

Training:

Engineering Associate and Senior Engineering Associate

Equivalent to an Associate of Arts Degree from an accredited college or university with major course work in civil engineering or a related field.

Licenses/Certifications:

Engineering Associate

May require the possession of or ability to obtain an appropriate, valid Arizona driver's license.

Senior Engineering Associate

Some positions may require appropriate NICET certification, EIT, or equivalent.

May require the possession of or ability to obtain an appropriate, valid Arizona driver's license.

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This position is included in the City's classified services, pursuant to City of Tempe Personnel Rules and Regulations, Rule 1, Section 103.

Job Code: 6141/6142

FLSA: Non-Exempt

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